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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,499	07/14/2004	Stephen Norman Batchelor	C4195(C)	2529

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EXAMINER
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KHAN, AMINA S

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/501,499

Applicant(s)

BATCHELOR ET AL.

Examiner

Amina Khan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/11/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This office action is in response to applicant's arguments filed on May 11, 2006.
2. Claims 1-11 are pending. Claim 6 is amended. Claims 8-11 are new.
3. All prior rejections to the claims are withdrawn. New grounds of rejection are recited below.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evani et al. (US 4,156,775).

Evani et al. teaches polymers comprising azetidiny groups and secondary amines (column 4, lines 40-65; column 1, lines 45-65). Evani et al. teaches adding 0.1-6% weight percent based on the weight of the suspension of the polymer to an aqueous suspension of cellulosic fibers (column 7, lines 10-25). Evani et al. further teaches polymer compositions comprising additives which may be textile compatible carriers (column 7, lines 50-68).

Evani et al. does not teach the preferred polymers and weight percentages in a single example.

It would have been obvious to one of ordinary skill in the art to pick the appropriate substituents to arrive at the instantly claimed structure because Evani et al. teaches azetidinyI rings and secondary amine substituents as useful in providing improved wet strength fibrous textile materials. All disclosures of the prior art, including non-preferred embodiment, must be considered. See *In re Lamberti and Konort*, 192 USPQ 278 (CCPA 1967); *In re Snow* 176 USPQ 328(CCPA 9173). Nonpreferred embodiments can be indicative of obviousness, see *Merck & Co. v. Biocraft Laboratories Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1989); *In re Lamberti*, 192 USPQ 278 (CCPA 1976); *In re Kohler*, 177 USPQ 399. A reference is not limited to the working examples, see *In re Fracalossi*, 215 USPQ 569 (CCPA 1982).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's polymer concentration range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In

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there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

7. Claims 1,2 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swarup et al. (WO 93/13142).

Swarup et al. teaches polymers such as acrylics modified by azetidinol containing materials (page 2, lines 28-30), specifically polymers comprising monomer mixtures of tertiary-butylaminoethyl methacrylate and ethyl methacrylate (page 3, lines 32-35; page 4, lines 11 and 14), as claimed in claims 1,2 and 5-7. See example II, page 12. Swarup et al. further teaches the equivalence of the monomers taught in example II and tertiary-butylaminoethyl methacrylate and ethyl methacrylate (page 3, lines 32-35; page 4, lines 11 and 14).

Swarup et al. does not teach all the preferred embodiments in a single example.

It would have been obvious to one of ordinary skill in the art to substitute the tertiary-butylaminoethyl methacrylate and ethyl methacrylate monomers into the methods taught in example II of Swarup et al. because Swarup et al. teaches the

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addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

One of ordinary skill in the art would have been motivated to select the instantly claimed polymer at the claimed percentage from the teachings of Evani et al. absent unexpected results.

6. Claims 1,3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (WO 01/25386).

Parker teaches fabric care compositions comprising reactive cationic polymers, specifically secondary amine based azetidinium resins, and textile compatible carriers (page 4, lines 15-21; page 5, lines 10-28; page 6, 17-19) as claimed in claims 1 and 3. Parker further teaches the resins be applied at 0.0005-5% by weight on the fabric based on the weight of fabric (page 7, lines 5-11), as claimed in claim 4.

Parker does not teach all the preferred embodiments in a single example.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's polymer concentration range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless

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equivalence of these monomers as useful agents in providing improved wet strength fibrous textile materials. All disclosures of the prior art, including non-preferred embodiment, must be considered. See *In re Lamberti and Konort*, 192 USPQ 278 (CCPA 1967); *In re Snow* 176 USPQ 328 (CCPA 9173). Nonpreferred embodiments can be indicative of obviousness, see *Merck & Co. v. Biocraft Laboratories Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1989); *In re Lamberti*, 192 USPQ 278 (CCPA 1976); *In re Kohler*, 177 USPQ 399. A reference is not limited to the working examples, see *In re Fracalossi*, 215 USPQ 569 (CCPA 1982). One of ordinary skill in the art would have been motivated to modify the examples of Swarup et al. absent unexpected results.

Regarding the claim limitations of claims 8-11, these limitations do not need to be met because the non-amino acrylate polymers and or/alkacrylate monomers are optional components in claim 2 upon which these claims depend.

### ***Response to Arguments***

8. Applicant's arguments regarding the Parker (WO 01/25386) as they apply to the rejections above <sup>have</sup> been fully considered but they are not persuasive.

Applicant's argue:

"The secondary amine group is 'used up' on the reaction with the epichlorohydrin to provide the azetidinium group, hence there will not be a polymer with secondary amine groups."

The examiner respectfully disagrees. Parker does not teach the molar amount of epichlorohydrin reacted to produce the polymer. The applicants own specification

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recites that use of no more than half molar equivalents of epichlorohydrin results in polymers with secondary amines (page 3, paragraphs 0055 and 0056). Therefore, it is possible to produce amine-epichlorohydrin polymers with both secondary amine and azetidinium groups.

9. Applicant's arguments regarding the Swarup et al. (WO 93/13142) as they apply to the rejections above <sup>have</sup> been fully considered but they are not persuasive.

Applicant's argue:

"step 2 is a polymer but contains no azetidinium/azetidinol groups"

The examiner respectfully disagrees. Swarup et al. teaches in example II (page 12) methods of preparing an azetidinol-modified acrylic, where the acrylic monomers are reacted and then azetidinol is added to the reaction medium. The terms "azetidinol modified acrylic" implies the polymer comprised azetidinol groups.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

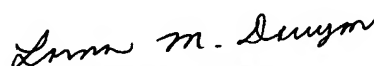


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Amina Khan  
Patent Examiner  
July 15, 2006



LORNA M. DOUYON  
PRIMARY EXAMINER